206 Substance Abuse

JOHN B. GRIFFIN, JR.

Definition

As used in this discussion, *substance abuse* refers to excessive use of a drug in a way that is detrimental to self, society, or both. This definition includes both physical dependence and psychologic dependence. Physical dependence caused by prolonged use of a drug refers to an altered physiologic state in which withdrawal symptoms develop when the drug is discontinued. Psychologic dependence refers to a state of intense need to continue taking a drug in the absence of physical dependence. By these definitions, alcohol is a drug that can cause both physical and psychologic dependence. In this chapter, alcohol is considered to be one of several drugs of abuse. It should be remembered, however, that the extent of alcohol-related problems in the United States is so great that alcohol is often considered in a separate category from other drugs of abuse.

Technique

Many patients who have significant substance abuse problems will report to you that they have no problems because they themselves are unaware that they are drug dependent. Consequently, it is very important to learn how much the patient takes of whatever substance is being used. The frequency with which the patient takes abusable drugs is also important. If excessive use seems likely, it is helpful to obtain an additional estimate from a friend or family member. It is important that your inquiry thoroughly cover all of the following classes of substances:

- Opioids: heroin, morphine, meperidine
- Hypnotics and sedatives: barbiturates, diazepam (Valium), chlordiazepoxide hydrochloride (Librium), methaqualone (Quaalude)
- Stimulants: amphetamine, cocaine
- Hallucinogens: lysergic acid diethylamide (LSD), phencyclidine (PCP), mescaline
- Volatile hydrocarbons: gasoline, paint thinner
- Cannabinoids: marijuana, hashish
- Alcohol

In most areas of the medical history, patients try to be truthful, since it is obviously in the best interest of their health that they do so. With substance abuse, however, there are strong pressures from social stigma and possible legal consequences that may lead to concealment. Drug and alcohol addictions are often regarded as signs of weakness. Many patients hesitate to admit anything for which they expect to be criticized.

The physician must also be aware that severe need for drugs may lead the patient to give false information at the time the history is taken. Patients in need of narcotics, for example, may feign kidney stone pain in an effort to obtain an injection of an opioid. The physician should be alert to observable evidence of use of abusable substances including the following: needle-track marks on the arms and legs or areas of fatty necrosis from subcutaneous injections in opiate addicts; redness of the eyes and tachycardia in marijuana users; excitement, tachycardia, increased blood pressure, and paranoid thinking in amphetamine users; and sensory distortion such as illusions and hallucinations in patients on psychedelic drugs.

If, in the absence of these signs, the physician nevertheless suspects substance abuse, laboratory procedures can be of great help. Reliable laboratory procedures for detection of opiates, amphetamines, barbiturates, cocaine, phencyclidine, and alcohol are now widely available. At times, a small dose of a narcotic antagonist such as naloxone is given as a diagnostic test in order to precipitate an abstinence syndrome that will be confirmatory of narcotic addiction.

Many addicts take abusable substances as a means of relieving anxiety or depression. It is often helpful to inquire whether the patient prefers "uppers" (stimulants) or "downers" (sedatives). Drug abusers who struggle primarily with depression usually prefer "uppers." Those who suffer primarily from anxiety tend to prefer "downers."

Before closing inquiry in this area, the physician should try to determine the extent to which drug and alcohol use is interfering with the patient's life performance in work, family, education, and social relationships.

Basic Science

In the United States, 5 to 10% of the adult population is said to have a drinking problem; about 600,000 persons are addicted to heroin; and an estimated 25 million Americans have at least tried marijuana. It is apparent from these statistics that substance abuse is a significant subject for inquiry. In almost every area of medicine, the physician will come in contact with many patients whose ability to function is significantly impaired by their use of drugs, alcohol, or both.

In the early 1900s, laws such as the Harrison Narcotics Act (1914) were passed that started a trend of steadily increasing governmental regulation. At present, illicit drug use is considered both a legal and a medical problem. Enforcement of laws regarding drug use is carried out by several governmental agencies of which the Drug Enforcement Agency and the Food and Drug Administration are the most widely known. The governmental agencies most involved in treatment programs for substance abuse are the National Institute on Drug Abuse and the National Institute on Alcohol Abuse and Alcoholism.

Illicit use of narcotics, particularly heroin, produces a physical condition that is extremely difficult to overcome. In the past, figures from the federal narcotics addiction hospitals indicated over 90% relapse after release. Many

heroin addicts are now treated in methadone maintenance programs and therapeutic communities where results are considerably better. Although it is true that the methadone programs substitute addiction to one narcotic (methadone) for addiction to another (heroin), many studies have shown improvement in work records and decrease in criminal activities among heroin addicts who enter methadone maintenance programs.

Use of stimulants such as amphetamine do not result in marked physical dependence but can lead to extreme psychologic dependence. Probably the drug that produces the strongest psychologic dependence is cocaine. Cocaine addiction has been somewhat limited by the fact that it is quite expensive in comparison to other illicit drugs, but its use, particularly among affluent groups such as professional athletes, has been increasing rapidly during the past few years.

Barbiturates, diazepam, methaqualone, and other sedative drugs can produce a significant physical addiction. The abstinence syndrome that results when the patient is deprived of barbiturates can be dangerous, resulting in severe convulsions and even death. The withdrawal syndrome from alcohol is similar to that seen in barbiturates. The most severe form of the alcohol withdrawal syndrome is often referred to as *delirium tremens*. In contrast to the dangerous withdrawal syndrome seen with barbiturates and alcohol, the abstinence syndrome from narcotics, although painful and dramatic, is rarely fatal.

Use of psychedelic drugs such as LSD and peyote does not produce physical addiction. There may, however, be psychologic dependence, and an increasing body of data suggest that prolonged use can result in deterioration of mental function.

Clinical Significance

The patient who is dependent on alcohol or other substances of abuse has a very serious problem. Substance abuse may lie at the root of many presenting illnesses, including serious conditions such as endocarditis, cirrhosis of the liver, septicemia, hepatitis, and subdural hematoma. Even if not the primary problem bringing the patient in for treatment, substance dependency can so complicate the patient's ability to cooperate with treatment that nothing can be accomplished until the addiction is resolved. When the patient's substance abuse represents an effort to self-medicate an emotional disorder, it is important for the physician to recognize this fact. The physician must then include in the treatment plan measures to alleviate the emotional disorder.

There is now an extensive network of private, federal, and state programs that include both inpatient and outpatient capacity for treatment of drug and alcohol problems. Physicians should acquaint themselves with these agencies so that proper referral can be made. In addition, the private organization of Alcoholics Anonymous has been of great help to many alcoholics. Since many patients with drug dependence are reluctant to admit the existence of their problem, the physician must often use a skillful blend of persuasion and pressure to convince the patient that help must be sought.

References

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